

## New records of Melyridae (Coleoptera) from the Maritime Provinces of Canada

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The Melyridae (soft-winged flower beetles) are a diverse, abundant, and widespread family of beetles found throughout the world, with more than 300 genera and 6000 species worldwide (Mayor 2002). Melyrids are particularly abundant in dry, temperate regions of the world. Mayor's (2002) synopsis of the North American fauna includes 58 genera and 520 species. Bright (1991) tabulates 49 species in 14 genera in the Canadian fauna. Only one species, the introduced Palearctic *Malachius aeneus* (L.), was reported for Atlantic Canada, with records in New Brunswick, Nova Scotia, and Newfoundland.

The common name of the family derives from the habits of many species that congregate on flowering plants, where they feed on pollen. Most adult melyrids are potentially polyphagous. Many, particularly those in the subfamily Malachiinae, are omnivorous scavengers and (or) predators feeding on small arthropods, pollen, and nectar. Larvae are opportunistic predators and scavengers feeding on detritus, fungi, and small arthropods (Mayor 2002).

Abbreviations of collections referred to in the text are as follows:

ACNS	Agriculture Canada Research Station, Kentville, Nova Scotia, Canada
ACPE	Agriculture Canada Research Station, Charlottetown, Prince Edward Island, Canada
CGMC	Christopher G. Majka Collection, Halifax, Nova Scotia, Canada
DHWC	David H. Webster collection, Kentville, Nova Scotia, Canada
MZLU	Museum of Zoology, Lund University, Lund, Sweden
NBM	New Brunswick Museum, Saint John, New Brunswick, Canada
NSAC	Nova Scotia Agricultural College, Bible Hill, Nova Scotia, Canada
NSDNR	Nova Scotia Department of Natural Resources Insectary Collection, Shubenacadie, Nova Scotia, Canada

NSMC	Nova Scotia Museum, Halifax, Nova Scotia, Canada
RPWC	Reginald P. Webster collection, Charter's Settlement, New Brunswick, Canada
UPEI	University of Prince Edward Island, Charlottetown, Prince Edward Island, Canada

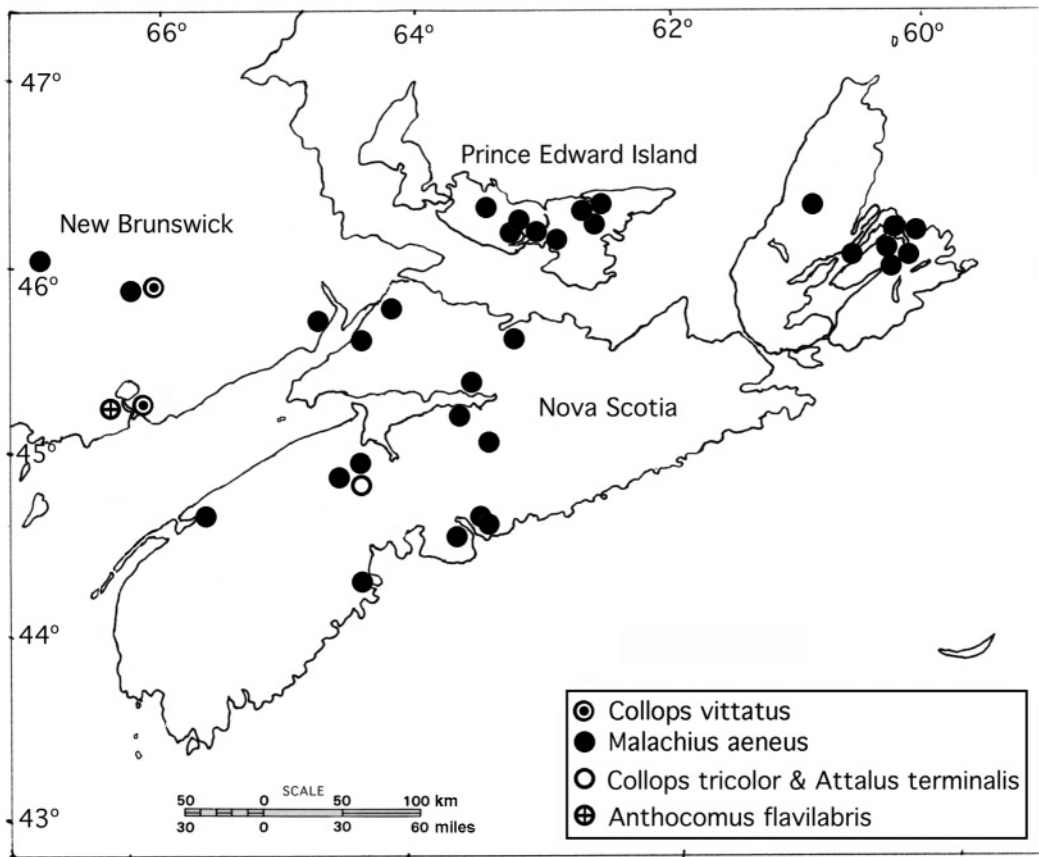
In the context of research on the beetle fauna of the Maritime Provinces, most of the major collections of Coleoptera in the region were examined. In addition to those listed above, collections include those of University College of Cape Breton, Sydney, Nova Scotia; Dalhousie University, Halifax, Nova Scotia; and Joyce Cook, Carleton University, Ottawa, Ontario. Based on these examinations, the following results summarize current knowledge of the melyrid fauna of the Maritime Provinces.

### *Malachius aeneus* (L., 1758)

This adventive species was first reported in North America in 1852 (LeConte 1852). It is now widely distributed in North America, particularly in the northwest and northeast parts of the continent (Mayor 2002). The known distribution in the Maritime Provinces is shown in Figure 1 (ACNS, NSAC, NSMC, and NSDNR). The earliest records in Nova Scotia are from 1922 (21 July 1922, Truro, H.G. Payne, NSAC). On Prince Edward Island (where it is newly reported), the species is widespread. The earliest records are from 1953 (27 May 1953, Upton; 24 June 1953, Mount Herbert, F.M. Cannon, ACPE).

In North America the species is frequent in agricultural areas, often in association with various cereal crops. Key (1999) notes that in Great Britain the larvae are predators on the larvae of *Meligethes aeneus* Fabr., 1775. In the Maritime Provinces, the native species *Meligethes simplipes* Easton, 1947 and the introduced species *Meligethes nigrescens* Stephens, 1830 and *Meligethes viridescens* (Fabr., 1797) (Hoebeke and Wheeler 1996; Majka and Klimaszewski 2004) are widespread

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**Fig. 1.** Distribution of Melyridae in the Maritime Provinces.

on mustards (Brassicaceae). In light of recent concerns discussed by Mason *et al.* (2003) about potential damage to oilseed rape (*Brassica napus* L. and *B. rapa* L.) in Canada by *M. viridescens*, investigating the biocontrol potential of *M. aeneus* might prove worthwhile.

### ***Collops tricolor* (Say, 1823)**

A specimen of *C. tricolor* was collected by D.H. Webster on 8 July 1961 at Gaspereau Lake, Kings County, Nova Scotia (DHWC). Although Kehler *et al.* (1996) reported specimens from Glenelg, Ross Lake, and Greenville Station, determinations from this study are frequently unreliable and examination of the collection (now at NSMC) revealed no *C. tricolor*. Consequently, these records remain unverified, and the specimen collected by D.H. Webster represents the first authenticated record from the Maritime Provinces.

Information on the bionomics of this species is meagre. Garland (2001) reports it from dry

lichen communities on granite outcrops. The specimen from Gaspereau Lake was found on granite outcroppings at the edge of the lake. Dry lichen communities on granite bedrock are not an uncommon habitat in Nova Scotia but are quite vulnerable to disturbance and damage by human activities.

### ***Collops vittatus* (Say, 1823)**

W. McIntosh and A.G. Leavitt collected nine specimens (9 July 1900, 8 July 1902, and 16 July 1904) of this species in Saint John, New Brunswick (NBM). These specimens represent the first records from the Maritime Provinces. R.P. Webster collected a specimen (11 July 2004) on Grand Lake near Flowers Cove, Queens County, New Brunswick, on dry sand on the lakeshore (RPWC). Adults and larvae are found on the foliage and flowers of a large variety of plants, where they are generalist predators feeding on small insects such as whiteflies, aphids, and eggs of Lepidoptera

(Nielson and Henderson 1959; Hagler and Naranjo 1994; De Quattro *et al.* 1997). They are considered to have significant biocontrol potential for a variety of pests of agricultural crops.

### ***Attalus terminalis* Erichson, 1840**

Three specimens of this species were collected by D.H. Webster on 8 July 1961 near Gaspereau Lake, Nova Scotia (DHWC). The specimens were found on blossoms of *Rosa virginiana* Mill. (Rosaceae). These specimens represent the first record from the Maritime Provinces. Bionomics information on this species is meagre. Adults of many species are found on flowers.

### ***Anthocomus flavilabris* (Say, 1825)**

A specimen of this species was collected by D.F. McAlpine on 25 June 1990 in Grand Bay, Kings County, New Brunswick (NBM). This specimen represents the first record from the Maritime Provinces. There is little bionomic information available on this species. Adults of other species of *Anthocomus* are sometimes found on flowers and are predaceous. Some species live in the galleries of wood-boring beetles (White 1983).

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